Claims:

1. (Original) A live vaccine comprising a pestivirus, wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated.

2. (Original) The vaccine of claim 1, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

3. (Original) The vaccine according to claim 2, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

4. (Original) The vaccine according to anyone of claims 1 to 3, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

5. (Original) The vaccine according to anyone of claims 1 to 4, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

6. (Original) A vaccine according to anyone of claims 1 to 5 comprising a BVDV pestivirus, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other BVDV strains, of said glycoprotein.

7. (Original) A pestivirus, wherein the RNase activity residing in glycoprotein E^{RNS} is inactivated by deletions and/or mutations ot at least one amino acid of said glycoprotein with the proviso that the amino acids at position 297 and/or 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein are not lysine.

8. (Original) The pestivirus of claim 7, wherein said RNase activity is inactivated by deletions and/or mutations located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

9. (Original) The pestivirus of claim 7 or 8, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

10. (Original) The pestivirus according to anyone of claims 7 to 9, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

11. (Original) A BVDV pestivirus according to anyone of claims 7 to 10, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other BVDV strains, of said glycoprotein.

12. (Original) A nucleic acid coding for a glycoprotein E^{RNS}, wherein the RNase activity residing in said glycoprotein is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein with the proviso that the amino acids at position 297 and/or 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein are not lysine.

13. (Original) The nucleic acid of claim 12, wherein said RNase activity is inactivated by deletions and/or mutations that are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

14. (Original) The nucleic acid of claim 12 or 13, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

15. (Original) The nucleic acid according to anyone of claims 12 to 14, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

16. (Original) A BVDV nucleic acid according to anyone of claims 12 to 15, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other BVDV strains, of said glycoprotein.

17. (Original) Use of nucleic acids according to anyone of claims 12 to 16 for preparing nucleotide- and/or vector-vaccines.

18. (Original) A pharmaceutical composition comprising a vaccine according to anyone of claims 1 to 6, and/or a pestivirus according to anyone of claims 7 to 11, and/or a nucleotide sequence according to anyone of claims 12 to 16.

19. (Original) A method for attenuating pestiviruses characterized in that the RNase activity residing in glycoprotein E^{RNS} is inactivated.

20. (Original) The method of claim 19, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

21. (Original) The method of claim 19 or 20, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

22. (Original) The method according to anyone of claims 19 to 21, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

23. (Original) The method according to anyone of claims 19 to 22, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

24. (Original) A method for producing a specifically attenuated vaccine characterized in that the RNase activity residing in glycoprotein E^{RNS} is inactivated.

25. (Original) The method of claim 24, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

26. (Original) The method of claim 24 or 25, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

27. (Original) The method according to anyone of claims 24 to 26, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

28. (Original) The method according to anyone of claims 24 to 27, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

29. (Original) A method for detectably labeling pestiviruses characterized in that the RNase activity residing in glycoprotein E^{RNS} is inactivated.

30. (Original) The method of claim 29, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

31. (Original) The method of claim 29 or 30, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

32. (Original) The method according to anyone of claims 29 to 31, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

33. (Original) The method according to anyone of claims 29 to 32, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

34. (Original) A method for the prophylaxis and treatment of pestivirus infections in animals characterized in that a vaccine according to anyone of claims 1 to 6 or a pharmaceutical composition according to claim 18 is applied to an animal in need of such prophylaxis or treatment.

35. (Original) A process for the preparation of specifically attenuated pestiviruses characterized in that the RNase activity residing in glycoprotein E^{RNS} is inactivated.

36. (Original) The process according to claim 35, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

37. (Original) The process according to claim 35 or 36, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

38. (Original) The process according to anyone of claims 35 to 37, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

39. (Original) The process according to anyone of claims 36 to 38, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

40. (Original) A process for the preparation of specifically labeled pestiviruses characterized in that the RNase activity residing in glycoprotein E^{RNS} is inactivated.

41. (Original) The process according to claim 40, wherein said RNase activity is inactivated by deletions and/or mutations of at least one amino acid of said glycoprotein.

42. (Original) The process according to claim 40 or 41, wherein said deletions and/or mutations are located at the amino acids at position 295 to 307 and/or position 338 to 357, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

43. (Original) The process according to anyone of claims 40 to 42, wherein said RNase activity is inactivated by deletion or mutation of the amino acid at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

44. (Original) The process according to anyone of claims 40 to 43, wherein said RNase activity is inactivated by the deletion of the histidine residue at position 346, as described in figure 1 for the CSFV Alfort strain in an exemplary manner or corresponding thereto in other strains, of said glycoprotein.

45. (Original) Use of a vaccine of anyone of claims 1 to 6 for the prophylaxis and treatment of pestivirus infections in animals.

46. (Original) Use of a pharmaceutical composition of claim 18 for the prophylaxis and treatment of pestivirus infections in animals.

47. (Original) Use of a pestivirus of anyone of claims 7 to 11 and/or a nucleotide sequence according to anyone of claims 12 to 16 for the preparation of a vaccine or a pharmaceutical composition.

48. (Original) A method for distinguishing pestivirus-infected animals from animals vaccinated with a specifically attenuated pestivirus, wherein said specifically attenuated pestivirus is attenuated according to a method of anyone of claims 19 to 23, comprising the following steps:

Obtaining a sample from an animal of interest suspected of pestivirus infection or a vaccinated animal;

Identifying the nucleotide sequence of a pestivirus within said sample;

Correlating the deletions and/or mutations of the E^{RNS} nucleotide sequence as present in the vaccine with a vaccinated animal and correlating the absence of said deletions and/or mutations with a pestivirus infection of said animal.

49. (Original) The method of claim 48, comprising the following steps:

Obtaining a sample from an animal of interest suspected of pestivirus infection or a vaccinated animal;

Identifying a modified E^{RNS} glycoprotein of an attenuated pestivirus by the specific binding of monoclonal or polyclonal antibodies to E^{RNS} glycoproteins present in said sample, said glycoproteins being modified by a method according to anyone of claims 19 to 23, whereby said monoclonal or polyclonal antibodies do not bind to unmodified E^{RNS} glycoproteins;

Correlating the specific binding of said monoclonal or polyclonal antibodies with a vaccinated animal and correlating the absence of antibody binding to a pestivirus infection of said animal under the proviso that the presence of pestiviral material in said animal and/or said sample is established otherwise.

50. (Original) The method of claim 49, comprising the following steps:

Obtaining a sample from an animal of interest suspected of pestivirus infection or a vaccinated animal;

Identifying an unmodified E^{RNS} glycoprotein of a pestivirus by the specific binding of monoclonal or polyclonal antibodies to E^{RNS} glycoproteins present in said sample, said glycoproteins not being modified by a method according to anyone of claims 19 to 23, whereby said monoclonal or polyclonal antibodies do not bind to modified E^{RNS} glycoproteins;

Correlating the specific binding of said monoclonal or polyclonal antibodies with a pestivirus infection in said animal and correlating the absence of antibody binding to an vaccinated animal under the proviso that the presence of pestiviral material in said animal and/or said sample is established otherwise.

51. (Original) The method of claim 48, comprising the following steps:

Obtaining a sample from an animal of interest suspected of pestivirus infection or a vaccinated animal;

Determining the absence or presence of RNase activity of a glycoprotein E^{RNS} within said sample;

Correlating the absence of RNase activity of glycoprotein E^{RNS} with a vaccinated animal and correlating the presence of said activity with a pestivirus infection of said animal.

52. (Original) The method of claim 48, comprising the following steps:

Obtaining a sample of polyclonal antibodies from an animal of interest suspected of pestivirus infection or a vaccinated animal;

Identifying any specific binding of said polyclonal antibodies to unmodified glycoprotein E^{RNS} or glycoprotein E^{RNS} as modified according to the invention.

Correlating the binding of said polyclonal antibodies to unmodified glycoprotein E^{RNS} with a pestivirus infection and correlating the binding of said polyclonal antibodies to glycoprotein E^{RNS} as modified according to the invention with a vaccinated.